



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,186	09/04/2003	Terrill Wayne Woods	15391C-US	8017

7590 10/06/2004

Deere & Company
One John Deere Place
Moline, IL 61265-8098

EXAMINER

ILAN, RUTH

ART UNIT PAPER NUMBER

3616

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/655,186

Applicant(s)

WOODS ET AL.

Examiner

Ruth Ilan

Art Unit

3616

WU

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-31, 34, 44-46 and 49-51 is/are pending in the application.
- 4a) Of the above claim(s) 51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16, 26-30, 34, 44, 45 and 49 is/are rejected.
- 7) ☒ Claim(s) 17-25, 31, 46 and 50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/4/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The preliminary amendment of September 4, 2003 is acknowledged. An action on the merits follows.

Priority

2. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)). The specific reference to any prior nonprovisional application must include the relationship (i.e., continuation, divisional, or continuation-in-part) between the applications except when the reference is to a prior application of a CPA assigned the same application number.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13, 16-31, 34, 44-46, 49, and 50, drawn to an agricultural tractor, classified in class 180, subclass 359.
- II. Claim 51, drawn to a leveling device, classified in class 280, subclass 6.157.

The inventions are distinct, each from the other because of the following reasons:

4. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are

shown to be separately usable. In the instant case, invention I has separate utility such as in a tractor without such an operators station. See MPEP § 806.05(d).

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. Michael Dixon on September 15, 2004 a provisional election was made without traverse to prosecute the invention of Group I. Affirmation of this election must be made by applicant in replying to this Office action. Claim 51 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the central housing being part of an agricultural tractor frame, as claimed in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

9. Claims 10, 23, and 26 are objected to because of the following informalities: In claim 10, line 2, in front of "agricultural", "a" should be "an." In claim 23, lines 3 and 4, both instances of "an", should be "a". In claim 26, line 6, before "differential", "a" should be inserted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Art Unit: 3616

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8 and 9 include both kilowatt and hp ratings for the claimed engine, however, these values are not exact conversions, and as such it is difficult to determine what power value is being claimed. Regarding claim 10, the scope of the claim is unclear because the specification has described the frame as the "structure on which other vehicle components are mounted", such as the cab. There is no disclosure of any vehicle components being mounted on the central housing, and as such it is unclear how the housing forms part of the frame. For the purposes of Examination, it will be assumed that "forming part of the frame" is intended to mean rigidly mounted to the frame.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

13. Claims 1-3, 11, 16, 26, 29, 30, 44 and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Alessandro et al. (US 6,148,945.) Alessandro et al. teaches an agricultural tractor including an engine (inherently) and a transmission (differential 12) driven by the engine and having left and right output members 16 which are the planet carriers of the inboard final drives (as taught in col. 2, lines 53-56) and having a drive axle with a central housing (11) and left and right axle housings (13b) movably coupled to the central housing for vertical movement relative to the central housing, and left and right axle shafts (20) rotatably carried by the axle housings. Also taught are left and right universal joints (17) that as broadly claimed daringly couple the output members to the axles shafts (via half axle 18 and joint 19) and left and right wheel and tire assemblies. Regarding claim 11, Alessandro et al. teaches upper and lower control arms (14 and 15 that are pivotally coupled to the central housing and the axle housings, and one spring member (unnumbered device shown in Figure 1, as noted by the Examiner.) Regarding claim 26, for those elements not previously mentioned, Alessandro also teaches left and right inner suspension housings (11.) Regarding claim 30, Alessandro et al. teaches ball joints (26, see Figure 1.)

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3616

15. Claim 1, 2, 4, 10-12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreis (US 5,931,486) in view of Lucand (US 1,379,770.) Andreis teaches an agricultural tractor including an engine (inherently) and a transmission (differential 5) driven by the engine and having a drive axle with a central housing (2) and left and right axle housings (3a,3b) movably coupled to the central housing for vertical movement relative to the central housing, and left and right axle shafts (7a, 7b) rotatably carried by the axle housings. Also taught are left and right wheel and tire assemblies (8a, 8b.) Regarding claim 10, Andreis teaches that the central housing is mounted to the tractor frame (by 12 and 13) and can be mounted in a non-oscillating manner (see col. 2, line 25 and as such forms part of the frame, at least in the sense and as broadly disclosed by the Applicant. Regarding claims 11 and 12, Andreis teaches upper and lower control arms (22 and 24) that are pivotally coupled to the central housing and the axle housings, and one spring member (19) that is a hydraulic cylinder connected to a hydraulic circuit (Figure 7) with a pressure accumulator (35.) Andreis fails to teach the specifics of the differential, including the left and right drive output members, or that the transmission central housing includes left and right final drives. Andreis also fails to specifically disclose the left and right universal joints coupling the output members of the differential to the left and right axle shafts, because that portion of the Figure is not shown in detail. However it is noted that such a coupling is conventional. Lucand teaches a sprung differential with left and right inboard final drives (gears O and O¹) and include a universal joint connection of the type claimed (P.) Lucand teaches that the use of the final drive with a differential is advantageous

Art Unit: 3616

because it reduces the tendency of wheel spin under differing resistance (see page 2, lines 49-57.) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the axle of Andreis to include the differential and final drive arrangement disclosed by Lucand in order to provide a reduced tendency to spin, as taught by Lucand. Regarding the universal joint, it would have been obvious to include with Andreis a universal joint connection at the differential, as taught by Lucand, because such connections are conventionally used to compensate for radial displacement between the differential output and the half axles, while maintaining the ability to provide a driven rotary connection. Regarding claim 4, Andreis in view of Lucand fails to specifically disclose the tread spacing of 60 inches. It would have been an obvious matter of design choice to make the tread spacing 60 inches, since the modification would have involved a mere change in the size of a component and it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955.)

16. Claim 5 –9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreis (US 5,931,486) in view of Lucand (US 1,379,770.) as applied to claim 1 above, and further in view of Applicant's admission of the prior art device of Figure 13 of the instant Application and Koenig (US 2,546,453.) Andreis in view of Lucand is discussed above, and teaches all elements of the claimed invention except for means for infinitely positioning the wheel assemblies along the left and right axle shafts. Both the admitted prior art device of Figure 13, and Koenig teach such a means, and further Koenig teaches that it is desirable to adjust tread spacing of a tractor to accommodate crop

rows of various spacing (col. 1, lines 10-15.) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the tractor of Andreis in view of Lucand to include a wheel position adjustment, as taught by both the admitted prior art, or Koenig, in order to accommodate crop rows of various spacing. Regarding the power rating of the motor, the claimed motors are well known ratings, and it would have been an obvious matter of engineering design to select a tractor motor of sufficient power to perform the various agricultural functions.

17. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andreis (US 5,931,486) in view of Lucand (US 1,379,770.) as applied to claim 11 above, and further in view of Pitcher (US 4,623,868.) Andreis in view of Lucand is discussed above and teaches all elements of the claimed invention. Andreis additionally teaches that a position sensor (41) is used to sense variations in the position of the suspension, but fails to disclose that the position sensor is a rotary potentiometer. Pitcher teaches that it is useful and conventional to use a rotary potentiometer to measure suspension displacement as part of the suspension control servo-system of the suspension control system (see col. 1, lines 20-25.) It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the tractor suspension of Andreis in view of Lucand with a sensor that is a rotary potentiometer, as taught by Pitcher, in order to measure the rotary displacement of the suspension.

18. Claim 3, 26, 27-29, 34 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andreis (US 5,931,486) in view of Lucand (US 1,379,770) as applied to claim 1, and further in view of Applicant's admission of prior art differentials with

inboard planetary final drives (Figure 2,3) and Szalai (US 4,073,358.) Andreis in view of Lucand is discussed above, and teaches all elements of the claimed invention including with regard to claim 26, left and right inner suspension housings fixed to the differential case (18,28.) Andreis in view of Lucand fails to disclose a differential case including inboard planetary final drives. Planetary reduction is conventional, and is useful with tractors because it provides the high power engine drives with the necessary speed reduction needed for low velocity tractor use. Both Applicant's admission of prior art differentials, and Szalai teach these types of differentials for use with tractors, and Szalai further teaches that such inboard planetary drives are useful for tractors because tractors are generally known to include the capability of an adjustable track width (see col. 1, lines 50-56.) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the tractor axle of Andreis in view of Lucand to include a differential with an inboard planetary drive, as claimed, based on Applicant's admission that such a differential arrangement is well known in the tractor art, and as taught by Szalai in order to provide a useful arrangement for adjusting track width.

19. Claim 4, 12, 27, 34 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Alessandro et al. (US 6,148,945.) Regarding claims 4 and 27, Alessandro et al. fails to specifically disclose the tread spacing of 60 inches. It would have been an obvious matter of design choice to make the tread spacing 60 inches, since the modification would have involved a mere change in the size of a component and it has been held that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955.) Regarding

Art Unit: 3616

claims 12, 34, and 49, the spring shown in Alessandro is not specifically disclosed as a hydraulic spring with an associated circuit. The Examiner takes Official Notice that it is old and well known that such suspensions for heavy equipment such as tractors are usually equipped with hydraulic springs and actuating circuits, and it would have been obvious to one having ordinary skill in the art at the time of the invention to conclude that such a spring as shown in Alessandro et al. would have been an hydraulically actuated cylinder.

20. Claims 5-9 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alessandro et al. (US 6,148,945.) in view of Applicant's admission of the prior art device of Figure 13 of the instant Application and Koenig (US 2,546,453.) Alessandro et al. is discussed above, and teaches all elements of the claimed invention except for means for infinitely positioning the wheel assemblies along the left and right axle shafts. Both the admitted prior art device of Figure 13, and Koenig teach such a means, and further Koenig teaches that it is desirable to adjust tread spacing of a tractor to accommodate crop rows of various spacing (col. 1, lines 10-15.) It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the tractor of Alessandro et al. to include a wheel position adjustment, as taught by both the admitted prior art, or Koenig, in order to accommodate crop rows of various spacing. Regarding the power rating of the motor, the claimed motors are well known ratings, and it would have been an obvious matter of engineering design to select a tractor motor of sufficient power to perform the various agricultural functions.

Allowable Subject Matter

21. Claims 17-25, 31, 46 and 50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth Ilan whose telephone number is 703-306-5956. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RI
10/01/04

Ruth Ilan
Primary Examiner
Art Unit 3616



10/1/04